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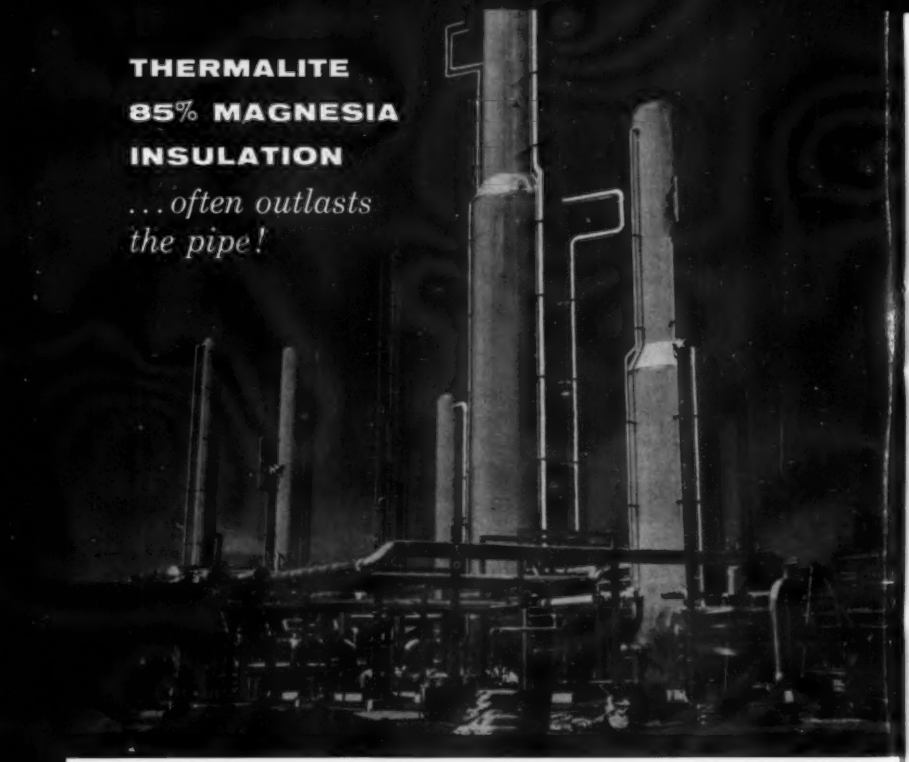

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POSSIBILITIES OF IMPACT CRUSHING IN ASBESTOS MINING AND MILLING

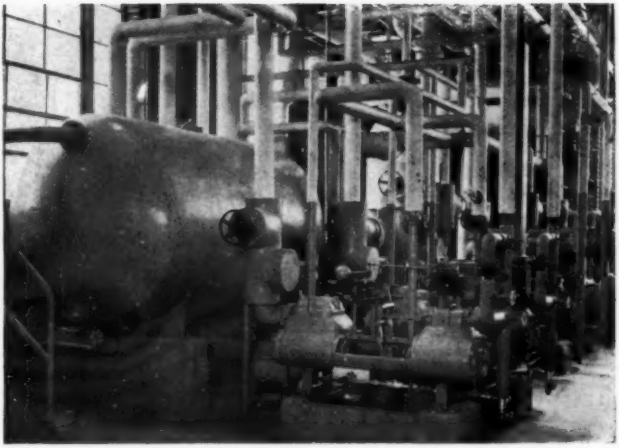
By E. Andreas and A. Torlach
Munster - Westphalia (Germany)

Since 1949 lead ore mining companies in Western Germany have been using Impact Crushers instead of jaw crushers, cones, rolls and hammer mills previously employed in the conventional multiple-stage reduction of the ore. In the light of the results obtained from crushing tests on lead ores of Mechernich, lead-zinc ores of Maubach, Dogger ores, pyrite of Meggen and lead matte, PUFFE (1) comes to the conclusion that Impact Crushers fulfill all the necessary requirements, with obvious distinguishing features over these types of machines, in the sense that besides ensuring a considerably improved crushing effect they provide a high degree of selectivity on account of the principle applied to their design.

In Impact crushing, natural cleavage is used for splitting run-of-mine ores of certain petrographic structure (conglomerates) are crushed in such a manner that the predominantly easily crushable ore-rich fraction is reduced to a much greater extent than the harder gangue material. When crushing is followed by classification, the crusher discharge can be separated into products of various sizes, and the barren can be discarded. In course of time, this method of differential crushing offered the ore preparation industry in Western Germany and in nearly all parts of the world an impressive number of economic and technologic advantages particularly by decreasing the number of the stages of comminution used in the conventional reduction scheme.

Naturally, this mechanical pre-concentration process is applicable primarily to low-grade ores, its object being to remove a large amount of waste as far ahead of flotation as possible, thereby effecting a considerable saving in the power consumed by intermediate and fine grinding before flotation. To cite but one example, in the Nechernich treatment plant selective crushing in impact crushers allowed 30-40 per cent by weight of the crude ore to be discarded as waste.

A. Andreas developed the single-rotor Impact Crusher in 1942. Recent years have witnessed great advances



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in the application of this machine for the reduction of medium-hard and hard rock, minerals and ores, this in comparison with any other type of crusher which has been used so far. Whereas in more conventional machinery comminution is effected either by compression or by squeezing, the impact crusher works by overcoming the impact strength.

The HAZEMAG Impact Crusher, System Andreas comprises a box-like frame, or housing of welded steel construction, containing a quickly rotating and horizontally pivoted rotor carrying the blow bars by which the feed is caught and projected against the impact plates arranged spirally in relation to the rotor and pivoted so as to be capable of pendulous motion. Reduction is achieved by impact against these steel bodies and by one particle striking another, using natural cleavage for splitting. Factors directly affecting the crushing efficiency which is extremely high include first and foremost the specific gravity of the feed and the circumferential speed of the rotor which, depending on individual requirements, can be varied between 2500 and 13500 ft./min.

According to PUFFE (1) the basic law of impact crushing is represented by the relation $A_b = \frac{m v^2}{2}$ which means that the accelerative work A_b done by the crusher is equal to the kinetic energy $\frac{m v^2}{2}$ of the feed (m denoting the mass and v the speed of the rotor).

Consequently, whereas in conventional crushers comminution takes place by squeezing, shearing or forcing the feed through grates, impact crushing consists in breaking by impinging on a steel wall and this explains why the power required in this process is very low by comparison. As a general rule, it can be assumed to average only 1 k/wh per ton of crushed ore.

As mentioned previously, the impact plates against which the feed is hurled, are suspended pendulum fashion and arranged spirally in relation to the rotor. This provision enables the clearance between said plates and the blow bars to be readily adjusted, by means of a spindle, to the required fineness of grain. Not only this, it

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also enables the impact plates to give way if any foreign matter (tramp iron, timber, etc.) enters the crusher, thereby allowing such matter to pass without any harm resulting. This advantage cannot be claimed by either cone crusher, hammermills or other similar types in which foreign bodies encountered in the feed give rise to serious trouble. As the outlet comprises neither grates nor screens, foreign bodies which have accidentally entered the working chamber can pass out of the latter freely, the impact plates returning automatically to their operating position.

So rapidly was the success of impact crushing in the lead, zinc, cassiterite and iron ore mining field, that the idea was soon conceived of expanding the process to include also the asbestos industry. According to PUFFE (3) "the raw material processed in this sector usually contains easily cleavable components (asbestos) in addition to a relatively tough ore (serpentine) of a find to coarse-grained structure".

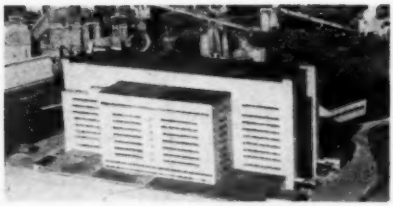
For the purpose of this article, it will be assumed that the reader is familiar with the conventional flow sheet of an asbestos preparation plant. STRATLING (4) has postulated as follows the problem which confronts the Impact Crusher in this field: "The aim of **asbestos ore preparation** is to liberate the copses embedded in the gangue and to open them to trade qualities.

(1) Insofar as asbestos crude without gangue is concerned, fiberizing must take place without shortening the fibre.

(2) The problems to be solved simultaneously in the preparation of the run-of-mine ore (asbestos plus gangue) may be bracketed under the following headings:

(a) Selective crushing i. e. separation of the gangue from the fibre with simultaneous disintegration of the former and with no harm resulting to the fibre. **Separation of rock and fibre.**

(b) Preparation of asbestos and milling in such a manner that the resultant fibre can be discharged in a flexible form suitable for spinning and without damage being caused to its structure."



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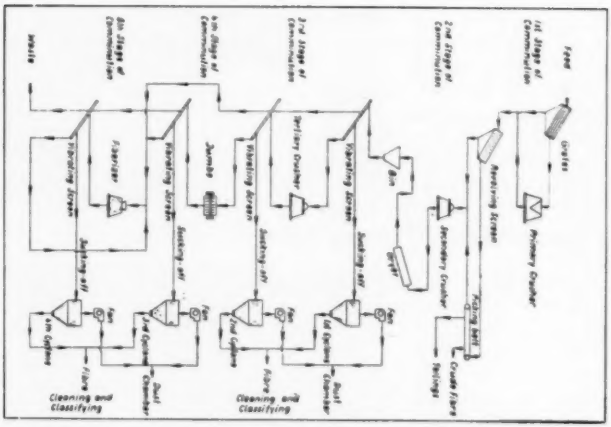
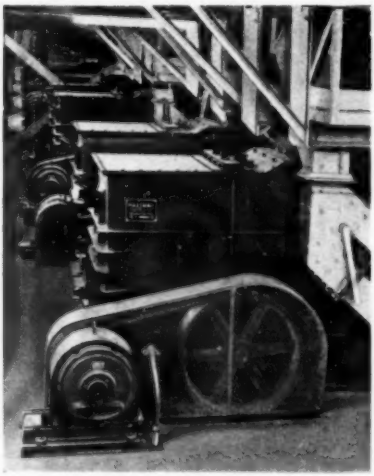


From the results obtained in his tests with a number of South-African and Canadian asbestos ores, STRATLING (4) forms the conclusions that impact crushing, especially in High-Speed Impactors, is preeminently well suited to asbestos ore preparation in conformity with the above specification, particularly those quoted under (1) and 2b), in which respect his report states as follows: "Formerly, the preparation of asbestos ore was performed in a number of crushing machines in tandem (e. g. jaw crushers for preliminary size reduction, cones or hammermills) or rolls for medium size reduction and vertical hammermills for fine size reduction. This process was rather time-consuming and did not always prove satisfactory as regards yield and quality of the end product. The introduction of Impact Crushers into asbestos ore preparation dates back to a few years only.

The preparation of the run-of-mine ore (asbestos plus gangue material) **by means of impact crushing** must be effected in two stages, viz:

(1) Selective separation of the gangue material from the fibre in a low-speed type impact crusher, with subsequent removal of the rock fraction (e. g. on a vibrating screen with simultaneous aspiration). The



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circumferential speed of the rotor must be chosen so as to effect maximum separation of the gangue from the fibre, with every precaution taken to prevent the gangue shortening the fibre and/or contaminate it with dust and fines. This requirement is met, as demonstrated by tests and experience gained in practice.

(2) Fiberizing the asbestos, freed from the gangue, in a High-Speed Impactor. Preparation is excellent, in part even better, but, in any case, more simple and more economical than with the previous methods in use.

Impact preparation of asbestos crude containing a minimum of gangue material is achieved in **one** machine, namely a High-Speed Impactor which is preeminently well suited for this kind of work. Naturally, the relatively high speeds employed in this process are liable to vary to some extent, to suit the properties of the feed.

With this system, it is possible to obtain from copses or crude, respectively, in **one** operation a fibre well adapted to spinning.

Thus, the suitability of the impact principle for the preparation of asbestos ores may be well considered as demonstrated in every respect."

In the light of the conclusions formed from the tests conducted as advised by E. Andreas with HAZEMAG Impact Crushers, STRATLING advocates a two-stage process, employing in the first stage Standard Impactors for the selective separation of the rock from the copses, and in the second stage, High-speed Impactors in which the opening-up of the copses is completed, so as to win the fibre in a structure well adapted to spinning.

Practical experience has confirmed the suitability of this method in every respect. One obvious advantage at least is the fact that the complicated conventional flowsheet of an asbestos preparation plant can be greatly simplified and the yield improved to an appreciable extent, although it was necessary, in some instances, to include an intermediate stage, not only from a qualitative point of view, but also on account of the nature of the fibre and its companion.

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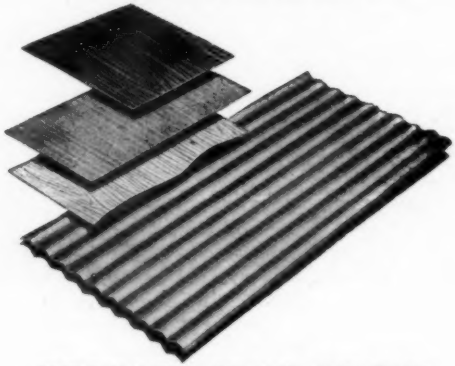

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Dealing with the practical application of impact preparation which so far has enjoyed considerable success in South-African, Canadian and various other asbestos preparation plants all over the world, KRAUS (5) states as follows: "Slinging the rock onto an impact plate results in the fibre being loosened and freed from the rock without deterioration of its structure, with the equally desirable advantage that the fibre thus opened remains virtually free from contamination with talc, sand and dust. This fibre-preserving preparation, as achieved by the HAZEMAG Impact Crusher, has led to the conclusion that the asbestos thus obtained is somewhat better than that delivered by the crushing equipment used hitherto for the same duty, this quite apart from the fact, that the total recovery from the run-of-mine ore could be considerably increased."

In addition it was shown that the amount of wear occurring in Impact Crushers is substantially lower than in orthodox Fiberizers. As shown by experience, working e. g. on chrysotile the blow bars (which are equipped with 2 striking edges) had to be reversed after only 200 hours of operation against 48 hours in fiberizers. In this connection, it is of special interest to note that there was no evidence of any decrease whatever in the quality of the impact-opened fibre, whereas in fiberizers the yield decreased after the machine was 6 hours in operation. Previously, subsequent treatment mainly relied on vertical hammermills (Fiberizers). However, one disadvantage levelled at these machines is that particles of rock or dust are forced into the fibre, which obviously detracts from the quality. The Impact Crusher on the other hand, besides preserving the structure of the copses during opening, quickly removes the liberated fibres from the crushing zone with the strong stream of air produced by the rotating blow bars. In this way, no integration occurs to unnecessarily fine or pulverize the asbestos substance. On the contrary, the latter is won in a structure well adapted to spinning, with no chance for the thread to break.

According to a report from an asbestos mine in Southern Rhodesia on the practical experience gained with a High-Speed Impact Crusher, Type FAP 1, used to open

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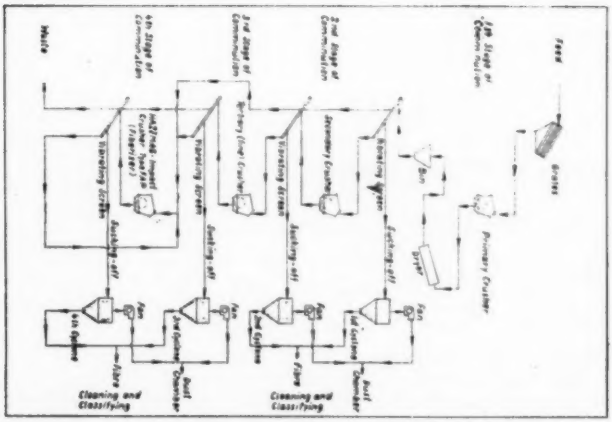
crude at an average capacity rate of 0.8 t/h, only two sets of blow bars and 6 wearing plates had to be replaced after a period of 14½ months, i. e. 9500 hours of operation. In addition to this the report states that the operatives in charge of the machine find the latter very satisfactory, owing to its simplicity, stability and easy accessibility. There is no evidence of vibration, any more than dust problems are involved. The machine works in closed circuit and its performance is considered to be very satisfactory. Similar reports are available from asbestos mines in South-Africa and Canada, as well as from a large number of asbestos processing plants.

In a survey of the favorable results obtained by impact crushing in the asbestos mining field, with emphasis placed on the advantages of this method in asbestos preparation practice, PUFFE (3) states as follows: "The complicated flowsheet previously used in the conventional reduction of the asbestos ore in several succeeding stages — jaw crushers, rolls, hammermills, edge runners, rod mills, revolving screen crushers, Jumbos, fiberizers etc. — can be greatly simplified by the use of impact crushers.



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Under normal circumstances, in the operational procedure for asbestos, preference is given to impact crushing in two or three stages: The first stage (primary crushing), using Standard Impact Crushers run at a medium peripherical speed, is confined to coarse opening of the ore by selective impact crushing. Subsequently, after separation, these fibres or copses that are not yet completely opened, pass into High-Speed Impact Crushers which take the place of the previously used conventional fiberizers. Here, the opening of the fibres is completed without appreciably affecting the length of the latter. This process is greatly assisted by the high velocity air currents which develop inside the impact machine due to the fast rotating rotor. Finally, the completely opened fibres are freed, in the usual manner, from whatever particles of serpentine with which they have been associated. The Impact Crusher used in the asbestos preparation scheme has demonstrated many advantages over the previous methods in matters of investments and operation costs, and, last but not least, quality of final product. Taking these in the order of their importance, they are: Simplification of the flowsheet (only 2 or 3 stages of comminution as against 6 in the past); saving in initial and operating cost; retention of fibre length; therefore, production of a high grade fibre. In the previously used crushers, the asbestos fibre was squeezed and overmilled due to the heavy pressure performance of these conventional machines."

As a point of interest it may be mentioned that already, as early as 1952, the benefits to be derived from the use of the Impact Crusher in asbestos ore preparation had been emphasized by PUFFE at a meeting of mining and mineral dressing engineers in London. In reply to this statement it was reported that hammermills, on account of their high operating costs, coupled with a tendency to shorten the asbestos fibre, fell short of practical expectations, with the result that they had to be replaced by cone and gyratory crushers. In the unsuing discussion, PUFFE drew attention to the principal distinguishing features of the Impact Crusher over known types of hammermills, quoting exact figures which, reflecting his own experience, point to a marked super-

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iority of the Impact Crusher with respect to crushing costs which he gave, in the case of the lead ore dressing plant of the Gewerkschaft Mechernicher Werke, as 0.04 S per ton for Impact Crushers against 0.25 - 0.30 S per ton for machines of equivalent capacity. (6).

The Impact Crusher, design ANDREAS, has been built for nearly eleven years by the firm of HAZEMAG HARTZERKLEINERUNGS und ZEMENTMASCHINENBAU, Munster - Westphalia (Germany), who have during this period, supplied between 1800 and 2000 units to nearly all parts of the world. Of this total, well over 400 machines went to the ore mining industry, including some 70 units for use in asbestos ore preparation — really a creditable achievement. All these machines have been operating for years, with unimpaired efficiency, in mines throughout Canada, South-Africa (Rhodesia) etc., as well as in numerous asbestos processing plants, at a daily throughput rate averaging 20,000 tons of chrysotile and 1500 tons of crocidolite asbestos ores. This equipment is distributed in Canada through THE HAZEMAG (CANADA) LTD., Montreal, and in United States through HAZEMAG OF U. S. A., INC., New York.

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MARKET CONDITIONS

GENERAL BUSINESS.

There are some indications that the recession in general business may be nearing bottom. Although industrial activity is at the lowest point since late 1954, there have been slight increases in recent weeks in such indicators as housing starts, steel production and even in auto output. None of these upturns is of sufficient magnitude to signal that the corner has been turned but they are a relief after the lower and lower figures reported consistently over the past few months. Meanwhile the stock market has been erratic as many companies have reported unsatisfactory first quarter results and numerous dividends have been reduced. On the opposite hand some companies have continued to turn a nice profit and their stocks have held steady or moved up counter to the general trend.

General sentiment among economists is for another two or three months at or near present levels followed by a definite uptrend during the latter part of the year, for business as a whole.

ASBESTOS — RAW MATERIAL.

Fibre demand during May held level with that of April and is running roughly 25% below the demand for the same period of 1957.

In view of low activity in the asbestos consuming industries, as reported under market conditions in asbestos, no early increase in asbestos demand is anticipated.

The curtailment of production to a shortened work week shows prospect of continuing for some time.

ASBESTOS—MANUFACTURED GOODS.

Asbestos Textiles. The market for asbestos textiles is very slow at present but is expected to improve during the latter part of the year.

Asbestos Brake Lining. Industry is running approximately 10% ahead of last year on replacement. Sales to equipment manufacturers are at a low level due to slack demand for new cars. Equipment sales may possibly pick up in September with the introduction of 59 models.

Asbestos Paper. At present, orders are coming in very slowly and competition is very keen for that busi-

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ness which is available. It is anticipated that the remainder of this year will increase in volume so that overall sales will come very close to that of last year. Orders are also very slow for *Millboard* and it is expected that business will continue to be slow for material of this type. The market for *Asbestos Saturated Paper* is very slow and the outlook is not too promising.

Insulation. High Pressure. Volume continues at a satisfactory level showing no marked recession in most Heavy Industrial and Public Utility demand for medium and high temperature insulations. It is anticipated that the level will continue with gradual upturn beyond mid-year.

Insulation. Low Pressure. Orders have continued to pick up during the past thirty to sixty days as a result of improved weather conditions which have enabled building construction to proceed at a much faster rate.

Asbestos Cement Products. At present the market is very slow but is showing signs of seasonal pick up with better weather.

The present market for *Roofing & Siding* is good. New colors and new design on A-C Siding has resulted in increased sales. Demand for siding during April showed an increase over the same period last year.

Prospects for increased sales of all types of *A-C Pipes* appear better as weather conditions improve.

The above comments have been made by various informed executives in the Industry. All comments are welcome.

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Manager of Asbestos Cement Engineering Co.,
Vaduz (Switzerland)

Mr. Stock, Manager of Asbestos Cement Engineering Co., is contributing an article to our magazine every year on the modern trend of the Asbestos Cement Industry. We published an important article last year in our June issue and hope that the article printed below will also interest our readers. (Editor's Note)

In this article I should like to survey old and modern trends in the making of ASBESTOS CEMENT JOINTS for PIPES for carrying water under pressure.

In the main, we can today distinguish two systems: one which was that ruling between the two world wars, and a second one which has consolidated itself after the last world war.

The first system consisted of the following:

Over two Asbestos Cement Pipes a sleeve, either of Cast Iron or of Asbestos Cement, was drawn and two rubber rings were compressed mechanically to make the Joint tight.

The modern trend, developed after the last war, is, however, to rely on the pressure in the fluid itself to make the rubber rings adhere to the Joint and keep it tight. This second system has also the advantage that mounting the Joint is far easier than what was customary with the first system.

The first Joint which was introduced by the industry was the GIBAULT Joint, invented by a Frenchman, consisting of a Cast Iron ring with two flanges and three or more bolts. (With the rings and nuts, at least 11 pieces). By tightening the bolts the flanges were drawn on to rubber rings, and a tight Joint was obtained. This Joint had two disadvantages:

1. The bolts would rust, and in some acid soils, disappear quickly.
2. The Joint itself was heavy and expensive because it was made of Cast Iron.

On the other hand, the Gibault Joint certainly had the advantage that, should it start leaking, it could again be rendered tight simply by tightening the bolts. This is

probably the reason why it has been widely adopted in the British Empire.

The next Joint, in order of importance, was one which was invented and developed in Italy. It was called the SIMPLEX Joint.

This Joint consisted of an Asbestos Cement sleeve which was pulled over two rubber rings. The rubber rings would roll over the Pipe and assume thereby their definite position. This Joint, however, did not give good results—chiefly, I think, because in Italy it was not so well cared for, as regards details.

However, when the American industry took this Joint over, its details and particulars were studied with care and the big American industry knew only this Joint up to the second world war. In the United States it proved satisfactory and millions of Joints were laid.

The Simplex Joint had the great advantage that there were no metallic parts and that it was extremely simple, consisting only of a sleeve and two rubber rings.

Both the above Joints, the GIBAULT and the SIMPLEX, have also the advantage that they allow for a certain misalignment of the Pipes, without leaking. For small diameters this misalignment could reach up to 9 Degrees but is less for bigger Pipes.

The SIMPLEX Joint was not so easy to mount because, owing to the state of the Pipe, sometimes the rubber rings would not roll uniformly. Thus, after mounting the Joint, sometimes it would be found that the rings were not in the proper position and the Joint would have to be drawn back and the rings adjusted again. This happened specially when the trenches in which the Pipes were being laid were flooded.

Owing to the above faults, a new Joint was developed in America, which bears the name of FLUIDTITE. In this Joint two recesses were machined into the Asbestos Cement collar and the rubber rings were placed into the recesses already in the factory. Thus, the rubber rings had no chance of being in the wrong position because they could not be dislodged easily from their recesses.

But another new advantage was obtained:

The Joint could, without much difficulty, be drawn

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ADVOCATE MINES LIMITED has extensive reserves of slightly harsh, quick draining, chrysotile asbestos near tidewater in Newfoundland.

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ASBESTOS-CEMENT MANUFACTURERS will find that the unusual quality of the fibre and its location permit low fabricating cost and high product strength.

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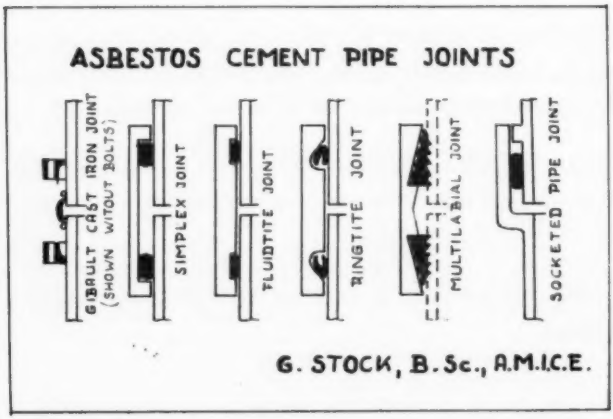
Canada.

over the Pipe and the next Pipe pushed into the Joint. To ease this, some lubricant was used which would not attack the rubber rings. This Joint also had a central ring which helped in placing the Joint correctly over the two Pipes.

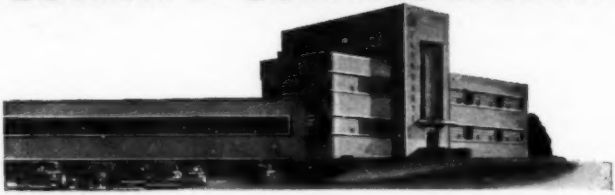
Let us now come to the more modern Joints in which the tightening is done by the hydraulic pressure of the fluid. One of the more important Joints is that called "RINGTITE", developed by an American Company. It is similar to the FLUIDTITE, but the two rubber rings which are also used in recesses in the sleeve have no longer a circular form but a double labial form. The two lips are compressed by the pressure of the fluid conveyed, one against the collar itself and one against the Pipe, as can be seen from the drawing. The higher the pressure, therefore, the tighter the lips are pressed to their seats.



The mounting of this Joint is even easier than the FLUIDTITE because the protruding lips inside the sleeve give way very easily when the Pipe is introduced.

The next Joint was developed and patented in Austria and relies also on the hydraulic pressure itself

QUALITY-CONTROLLED...



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You, too, can gain from experience. The Flintkote Company stresses quality—has manufactured quality products for over fifty years—uses quality-controlled asbestos fibres produced by Flintkote Mines in many of its products.

A wide variety of asbestos fibres now available for *your* use.

For further information and descriptive brochure—Write: The Flintkote Company, East Rutherford, New Jersey.

FLINTKOTE MINES, LIMITED

(Subsidiary of The Flintkote Company) Thetford Mines, P. Q., Canada

for tightening, but, whereas the FLUIDTITE Joint has only two big lips, this Austrian Joint has many small lips, each of which should be tightened by the hydraulic pressure. We would call it, therefore, multilabial.

To this Joint objections are raised by some engineers: the many small lips are subject to Ozonisation: the lips become hard with time and can no longer serve their purpose. Only the future will show if this is true.

Generally speaking, however, one can say that rubber rings, which are used in Asbestos Cement mains, work under ideal conditions for their preservation, for rubber keeps its resilience intact if maintained in the dark and if there is enough humidity. Both these conditions are present in water mains everywhere.

As a matter of fact, rubber has been used for Cast Iron Pipes in France as far back as one hundred years ago and it is said that the rubber of such Cast Iron Pipes is still as good today as when they were laid.

In Italy and Australia Socketed Asbestos Cement Pipes are also used for carrying water and these Pipes are jointed by one single rubber ring.

With these Pipes the modern improvement is to have the Asbestos Cement Pipe made with a protuberance which impedes the rubber ring from squeezing out between the Pipe and the Socket. Also, for the Socketed type the use of the multilabial rubber ring has been suggested and patented.

Complete Plants for making
ASBESTOS CEMENT PIPES
Socketed and Non-socketed
Precision Steel Mandrels
Plants for Making Sheets. Autoclaves for Steam Hardening
Plants designed, equipped and financed.
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OF EVERY SHAPE
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—RESILIENT
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Inquiries for Details, Quotations and References are welcome.

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BUILDING

Construction contracts in the United States showed a "highly encouraging" increase in April, according to complete figures for the United States released by F. W. Dodge Corporation.

Dodge vice president and economist George Cline Smith noted this marked the first break in a series of declines which began last November with practically all categories showing improvement.

The April contract total for the United States was $2,881,011,000, an increase of 4 percent over April of last year. The first three months of 1958 had been down 11 percent below the same period of 1957.

The residential building category showed its first increase of the year in April. The dollar total of $1,240,217,000, amounted to a rise of one percent, and the number of dwelling units covered by the contracts was up four percent.

The Dodge figures indicated that April contracts for non-residential building in April totalled $957,796,000, up 14 percent from the year-ago level. This was also the first percentage increase of the year in non-residential building.

The cumulative total of contracts for the first four months of 1958 amounted to $9,594,356,000, down seven percent from the like 1957 period. Cumulative total of contracts in the major construction categories showed: non-residential at $3,418,863,000, down seven percent; residential at $3,806,279,000, down six percent; and heavy engineering at $2,369,214,000, down 10 percent.

FOR SALE

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Foreign & Domestic Markets Solicited

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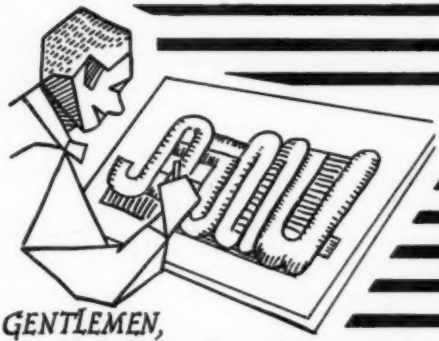

GENTLEMEN,

If we could tell you how to make a machine in which you could put 50c and pull out a dollar every time and all the time that would interest you. Sorry! We can't do that, but you can save as much money easily, quickly and all the time By changing to—

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NEW
HARDMAN
NEEDLE REINFORCED
ALL NYLON FELT
By special process for which patents have either been granted or applied for in many countries.

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Fernhill Mills
Bury, England

INTERNATIONAL ASBESTOS CEMENT REVIEW

While the wide range of asbestos-cement products offered by the industry varies considerably from country to country two tendencies strike us as significant. Rising production capacity, greater competition and tightening market conditions lead to an ever increasing diversification of asbestos-cement goods. Better quality, design and color make it gradually possible to up-grade asbestos-cement applications.

The success of "International Asbestos-Cement Review", now in its third year, is to a very large extent due to the realization of many asbestos-cement producers that it is time the architects became conversant with this versatile, unique material and that conventional manufacturers' literature alone does not suffice to arouse the architects interest. This magazine is edited by an archi tect who has been closely associated with the sales promotion and publicity of a Swiss company, and published by Editions Girsberger of Zurich.

Though "ac" is distributed to the extent of 50,000 copies a quarter in 24 countries, its circulation in the United States has remained modest. It is all the more remarkable that "ac" has been able to enroll such well-know American architects and designers as C. Theodore Larsen, Walter Sanders, Albert Frey, William Muschenheim, Bassetti & Morse, Charles Eames and J. Lister Holmes among its editorial contributors.

A prospectus on International Asbestos-Cement Review can be obtained by writing to "ASBESTOS", 807 Western Saving Fund Bldg., Philadelphia 7, Pa.

WANTED

Salesman — Estimator wanted—young, experienced in the steam, air-conditioning, cold insulation field, to work in the Baltimore-Washington area. Address Box No. 6M-B, "ASBESTOS", 807 Western Saving Fund Bldg., Phila. 7, Pa.

An exceptionally light-weight, efficient glass fiber insulation for covering the exterior of metal ducts and other heating or cooling equipment, is announced by Ehret Magnesia Mfg. Co., Valley Forge, Pa.

Known as Therma-K exterior duct and equipment insulation, it is designed for applications where temperatures range from sub-zero to 350° F. Ehret Therma-K provides low thermal conductivity (only 0.25 btu/sq. ft.) (hr) (F/in.) at 100° F. (mean), exceptionally light weight (densities 0.50 to 2.0 lb./cu. ft.), and long life. Low thermal conductivity permits less thickness for equal operating efficiency. Light weight means low density for easier trimming and installation. Long life results because Ehret glass fibers do not warp, shrink, rot, buckle, burn or support combustion, reducing fire hazard and minimizing maintenance.

Additional information on Therma-K exterior duct and equipment and other glass fiber insulations is available from Ehret Magnesia Mfg. Co., Valley Forge, Pa.

Publication of a manual on the painting of Asbestos-Cement products was recently announced by the Asbestos-Cement Products and the National Paint, Varnish and Lacquer Associations.

The booklet, the first ever issued on the painting of Asbestos-Cement products, discusses the types of paint that can be used on Asbestos-Cement, the advantages of each type, surface preparation of the material to be painted and recommended procedures of applying paint to Asbestos-Cement flat and corrugated sheets, siding and roofing shingles.

The new manual, "Painting Asbestos-Cement Products", can be obtained by builders, applicators and remodellers without charge by writing to the Asbestos-Cement Products Association, 509 Madison Avenue, New York 22, New York.

AUTOMOBILE SALES

	March 1958
Passenger Cars	359,464
Motor Trucks	73,666
Motor Coaches	342
	433,472

In March 1957, a total of 677,778 motor vehicles were sold. In the three months of 1958 the total was 1,459,577.

These figures were supplied by the Automobile Manufacturers Association, New Center Building, Detroit, Michigan.

NOISE PROBLEM TO BE TACKLED

The problem of noise which has been worrying industrialists, health experts and Government departments for many years, will be dealt with at the next Factory Equipment Exhibition at Earls Court, London.

Following the success of the first Thermal Insulation Exhibition, run in conjunction with the Factory Equipment Exhibition this year, the organizers have decided to widen the scope to include acoustics and sound insulation.

At this year's exhibition attendance increased by over 16 per cent and visitors from 61 different countries passed through the turnsiles.

Next year the Exhibition will be extended from six to ten days and will be open from April 7-17.

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Hamburg —:— Ballindamm 6
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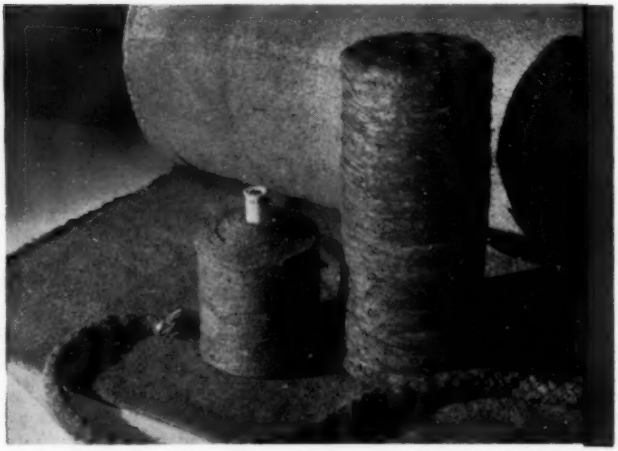

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200 Bloor Street East • Toronto, Ontario

CAPE

Subsidiaries of The Cape Asbestos Company, Ltd., London

Canada
(Dept. of Mines, Province of Quebec)

Tons 2,000 lbs.

Production for March 1958 (Quebec)	51,145	tons
Other Provinces	4,033	
	55,178	

Total production for March 1957 was 69,689 tons.

Africa (Rhodesia)
(Published by Rhodesia Chamber of Mines)

Tons 2,000 lbs.

Production for January 1958	11,014.09	tons
Valued at	£800,145	
Production for January 1957	10,773.64	tons
Valued at	£744,171	

Cyprus
(From Inspector of Mines)

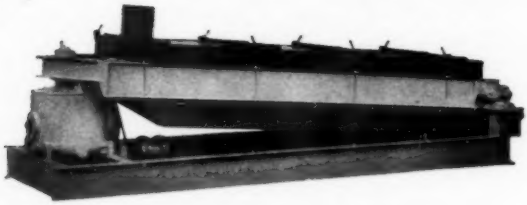
	1st Quarter (ending Mar. 31, 1958)		
	January	February	March
Rock Mined	7,952	12,566	53,093
Rock Treated	....	....	....
Fibre roduced	440	....	....
Fibre Exported	110	410	1,110

A new texture-chip design in a flooring that is especially suitable for use in industrial, commercial and institutional buildings has been introduced by Armstrong Cork Company, Lancaster, Pa.

The Imperial series in Excelon Tile features a non-directional graining that extends entirely through the 1/8-inch thickness of this vinyl-asbestos flooring. Since it it not just a surface treatment, the design cannot "wear off", no matter how much traffic the floor receives.

ROTEX® SCREENERS

GIVE PROFITABLE PRODUCTION!



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- Low head room
- Fast screen changes
- Dust-tite construction
- No screen-blinding
- Dependable service
- Rugged construction

The nearly level, gyratory motion, pioneered in ROTEX, conveys material rapidly over screen surfaces with minimum vertical vibration or hop. This stratifies the material by particle size, rapidly passing undersize particles through the mesh openings. The results are clean separations exacting accuracy, coupled with high capacity. Designed for the operator's convenience, ROTEX Screeners pay for themselves by the economies they effect.

TO MEET THE REQUIREMENTS OF THE ASBESTOS INDUSTRY: Fourteen models—one or two screening surfaces—quiet running counter balanced drive—heavy welded structural steel base.

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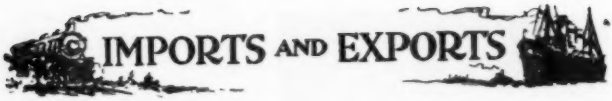

Imports Into U. S. A.

(Figures by Bureau of Census)

Unmanufactured Asbestos:

		January 1958 Tons (2240 lbs.)
From:	Canada	35,874
	Union of South Africa	3,186
	Australia	182
	Rhodesia	879
	Yugoslavia	644
	Other Countries	118
		40,883
	Valued at	$4,298,912
By Grades:		
	Crude No. 1, Chrysotile, Rhodesia	89
	Crude No. 2, Chrysotile, Canada	26
	Crude, Other, Chrysotile, Canada	72
	Crude, Other Chrysotile, Yugoslavia	644
	Crude, Other, Chrysotile, U. of S. Africa	193
	Crude, Blue, Australia	182
	Crude, Blue, U. of S. Africa	1,835
	Crude, Amosite, U. of S. Africa	1,158
	Textile Fibres, Chrysotile, Canada	996
	Textile Fibres, Chrysotile, Other Ctys.	57
	Shingle Fibres, Chrysotile, Canada	4,272
	Shingle Fibres, Chrysotile, Other Ctys.	22
	Paper Fibres, Chrysotile, Canada	2,755
	Other Fibres, Chrysotile, Canada	27,753
	Other Fibres, Chrysotile, Other Ctys.	39
		40,883

Manufactured Asbestos Goods:

	January 1958 Quantity (ibs.)	Value
Asbestos Yarn	17,308	$ 15,815
Asbestos Packing & Lining		
Israel	36,041	17,572
Other Countries	10,245	3,645
Asbestos Shingles (Impreg.)	44,901	4,575
Asbestos Shingles (Not Impreg.)		
Belgium	326,573	19,644

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UNARCO UNIBESTOS, the Amosite Asbestos Pipe Covering and Block
UNARCO Calcium Silicate Pipe Covering and Block
UNARCO 85% Magnesia Pipe Covering and Block
UNARCO Mineral Fiber Block
UNARCO Slip-On Insulation
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Over 30 years of specialization in quality asbestos products

Italy	1,028,596	42,864
Other Countries	181,323	9,314
Asbestos Manufactures—Others	.....	2,350
	1,644,987	$115,779

Exports from U. S. A.

(Figures by Bureau of Census)

Unmanufactured Asbestos:

	February 1958 Tons (2240 lbs.)	Value
To: Europe	66	$6,410
Canada	18	1,500
	84	$7,910

Manufactured Asbestos Goods:

	February 1958 Quantity		Value
Asbestos Cement & Pipe Covering	Lbs.	380,112	$ 55,616
Asbestos Textiles & Yarn	Lbs.	73,282	78,132
Asbestos Packings	Lbs.	106,413	161,606
Asbestos Clutch Facings	No.	98,680	92,314
Asb. Bk. Lng. (Mld. & S. Mld.)	Lin Ft.	239,293	82,984
Asbestos Brake Lining, Other	Lbs.	379,426	334,384
Asbestos Construction Materials	Lbs.	1,789,156	170,848
Asbestos Manufactures—Others	.....	.....	71,188
			$1,047,072

Imports of Asbestos by United Kingdom

Raw Materials

Tons 2,240 lbs.

	March 1958
From: Union of South Africa	1,907 tons
Basutoland, Bechuanaland & Swaziland	1,539
Rhodesia & Nyasaland	4,105
Canada	2,150
Other Commonwealth Countries	362
Foreign Countries	5
	10,068

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CANADA

Producers of

Raw Asbestos Crudes

& Fibres

Sales Representatives

for

Cassiar Asbestos Corporation Limited

Exports from Canada

(Published by Dominion Bureau of Statistics)

	Tons (2000 lbs.)	Value
Unmanufactured Asbestos:		
Crude		
United States	11	$ 8,883
United Kingdom	....	....
South America	....	....
Central America & Mexico	....	....
European Countries	....	....
Other Countries	....	....
	11	$ 8,883
Milled		
United States	8,932	$1,754,828
United Kingdom	717	128,660
South America	541	109,178
Central America & Mexico	691	126,611
European Countries	555	96,553
Other Countries	2,329	395,327
	13,765	$2,611,157
Shorts		
United States	33,417	$1,732,935
United Kingdom	1,822	76,374
South America	181	7,623
Central America & Mexico	165	11,602
European Countries	271	17,681
Other Countries	676	48,269
	36,532	$1,894,484
Grand Total—Unmanufactured Asbestos:	50,308	$4,514,524
Manufactured Asbestos Goods:		
Brake Lining		$ 22,911
Packing		....
Other Materials		6,109
		$ 29,020

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P. O. Box 1131, BREMEN, GERMANY

CAPE BLUE ASBESTOS

Direct from the Mines or from stocks in London

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TRANSVAAL BLUE • AMOSITE
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Processing of all grades of Asbestos carried out in our London Works.

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NEWS OF THE INDUSTRY

HAPPY BIRTHDAY

E. B. Poulin, Secy-Treasurer, Asbestonos Corporation, Ltd., Montreal, Canada, June 20.

Ladd L. Wilson, Vice President of Sales, Nicolet Industries, Inc., New York City, June 20.

Harold W. Donnelly, Vice President & General Manager, Smith & Kanzler Corp., Linden, N. J., June 22.

C. A. Schell, Vice President, Thermoid Company, Trenton, N. J., June 22.

L. M. Clarke, Jr., Philip Carey Mfg. Company, New York City, June 26.

A. F. Moore, Retired Manager, Asbestos Department, The Philip Carey Mfg. Company, Cincinnati, Ohio, June 26.

Thomas J. Walters, Asst. Manager, Industrial Products Department, The Ruberoid Co., New York City, June 27.

L. B. Palmer-Ball, President, Palmer Asbestos Company, Louisville, Ky., June 29.

Ernest A. Beldam, Director, Beldam Asbestos Co., Ltd., Hounslow, England, June 30.

Vincent W. Hemphill, Secretary, Standard Asbestos Mfg. Company, Chicago, Ill., July 1.

John W. McGovern, President, United States Rubber Co., New York City, July 5.

S. E. Breuleux, Treasurer, The Philip Carey Mfg. Co., Cincinnati, Ohio, July 6.

Charles S. Wood, Treasurer, Chas. S. Wood & Co., Newark, N. J., July 6.

C. L. Hoshaw, Manager, Construction Division, The Philip Carey Mfg. Co., Cincinnati, Ohio, July 7.

G. K. McKenzie, Executive Vice President, The Flintkote Co., New York City, July 7.

Capt. W. A. Janitch, R.E., Representative in Great Britain for Asbestos Corporation Ltd., London, England, July 10.

A. M. Ehret, Jr., Ehret Magnesia Mfg. Company, Valley Forge, Pa., July 11.

H. W. Prentis, Jr., Chairman, Armstrong Cork Co., Lancaster, Pa., July 11.

John J. Sullivan, Jr., President, Asbestos & Magnesia Materials Co., Chicago, Ill., July 13.

Irving McCormick, President, The McCormick Asbestos Company, Baltimore, Md., July 13.

Carlo M. Weber, Manager, Careystone Corrugated Dept., The Philip Carey Mfg. Co., Cincinnati, Ohio, July 14.

We extend congratulations and best wishes to all these gentlemen on the occasion of their birthdays.

proved *by performance!*

HUYCK NEEDLED FELTS

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ENGINEERED TO YOUR REQUIREMENTS

- ★ get quicker starts
- ★ increase production
- ★ improve product quality
- ★ lower felt cost

. . . making optimum use of synthetic fibers.

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NEW HUYCK FELTS

KENWOOD TEXTILE PRODUCTS

★ INDUSTRIAL FABRICS

FIRST IN QUALITY • FIRST IN SERVICE SINCE 1870

F. C. Huyck & Sons,
Rensselaer, N. Y.; Aliceville, Ala.; Peterborough, N. H.

In Canada: Kenwood Mills Ltd.,
Arnprior, Ontario

MR. R. F. BRADLEY PASSES AWAY

Carters (Merchants) Limited, London, England regrets to announce the death of their Chairman and Managing Director, Mr. R. F. Bradley at his home in Buckinghamshire.

Mr. Bradley was born in the year 1903, and there can be few countries in which, over the years, his name did not become well-known. Before the War, he had wide experience of organizing sales to the Balkans, the Balkan States, and the Near East. He travelled extensively in these territories and could also lay claim to a wide trading experience in West Africa.

During the War, he rendered invaluable service as a member of various Advisory Committees of the Ministry of Food. Both the London Chamber of Commerce and the Institute of Export, on whose Councils he served, have since had reason to remember with gratitude his sound judgment and breadth of vision. He was a man of many parts, interested in and well informed on painting, music and literature, and his opinion was always sought by those who knew him best.

The Chairmanship of the Company has been assumed by Mr. E. C. Sosnow, a business associate of Mr. Bradley for many years.

LLOYD O. LOHMEYER, JR. PURCHASES LAWTON H. PARSONS GASKETS & PACKING

The firm of Lawton H. Parsons Gaskets and Packing, Ambler, Pa., has recently been purchased by Lloyd O. Lohmeyer, Jr. of Philadelphia, Pa. The firm will now be known as the PARS MANUFACTURING COMPANY and will continue to operate at the same location at 6 S. Main Street, Ambler, Pa.

Mr. Parsons will remain as a consultant to the firm which manufactures PARS gaskets used to hold steam, air, water, ammonia, and various other acid and alkali chemicals in storage tanks, dryers, laundry machinery, locomotives, tank cars, boilers and conveyors.

In assuming charge of the new firm, Mr. Lohmeyer stated the quality of production so successfully established by Mr. Parsons will continue as before, and that a broad sales expansion policy will be initiated. Futhermore, the delivery and price policies regarding PARS products are exceptionally favorable in today's market. For complete information and catalog write to PARS MANUFACTURING COMPANY, P. O. Box 98, Ambler, Pa.

FLINTKOTE COMPANY

United States Lime Products Corporation, a subsidiary of The Flintkote Company opened a new $2 million manufacturing plant on May 28th in Arrolime, Nevada, some 19 miles northeast of Las Vegas, to meet the increasing demands for lime products by Western industry.

Opening of the Arrolime unit expands the string of Flintkote's international operations to a total of 55 manufacturing plants.

Exporters of

RAW ASBESTOS

ALL GRADES—ALL TYPES

C. J. PETROW & COMPANY (PTY.) LTD.

P. O. BOX 11000 — CABLE: SOTSEBSA

VOLKSKAS BLDG. — 76 MARKET STREET

JOHANNESBURG - SOUTH AFRICA

ASBESTOS TEXTILES

are manufactured in our own modern plant at Stark Mills, Hogansville, Ga. Spinning and weaving operations are closely controlled for maximum uniformity in asbestos yarns, fabrics and tapes. Specialties developed to meet customers' requirements.

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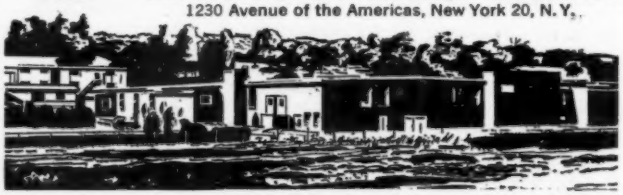
Write: Asbeston® Dept., Textile Division

UNITED STATES RUBBER COMPANY

1230 Avenue of the Americas, New York 20, N. Y.



Exports from U. S. A.

(Figures by Bureau of Census)

Unmanufactured Asbestos:

	Year 1957 Tons (2240 lbs.	Value
To: Europe	1,545	$178,863
Canada	116	12,262
Central America & Mexico	203	32,947
South America	174	29,913
United Kingdom	104	10,824
Other Countries	334	75,114
	2,477	$339,923

Manufactured Asbestos Goods:

	Year 1957 Quantity		Value
Asbestos Cement—Pipe Sovering	Lbs.	7,044,795	$1,091,419
Asbestos Textiles & Yarn	Lbs.	1,225,193	997,533
Asbestos Packings	Lbs.	1,672,125	2,241,024
Asbestos Clutch Facings	No.	1,350,181	1,044,234
Asbestos Bk. Lng. (Mld. & S. Mld.)	Lin Ft.	1,943,789	619,483
Asbestos Brake Lining, Rolls	Lin. Ft.	345,330	305,180
Asbestos Brake Lining, Other	Lbs.	4,906,354	4,192,870
Asbestos Construction Materials	Lbs.	34,978,290	4,034,530
Asbestos Manufactures—Others			682,170
			$15,208,443

I. D. C. N. A.

Greater Productivity is needed to maintain the industrial insulation field's volume and prosperity, according to *William E. Sprinkmann*, Chairman of the Economics Committee of the Insulation Distributor-Contractors National Associagtion.

In a report to the IDCNA Board of Directors, published in the current issue of the Association's Newsletter, Mr. Sprinkmann finds that a greater recognition by the contractors and the unions "of the inter-relationship of cost and productivity is required". Speaking for his committee, he states that "We are concerned that a trend toward greater productivity may not develop as quickly as needed".

Two major trends — the rapidly increasing rate of technology improvements and increases in population — are cited as a favorable effect on the overall industrial insulation market. On the other hand, Mr. Sprinkmann reports that the pressure of cost will depress the market.

IDCNA is the national trade association which represents the insulation industry.

CABLE ADDRESS METABEST

METATE ASBESTOS CORPORATION

Producers of

ARIZONA CHRYSOTILE CRUDES

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GILA COUNTY, ARIZONA

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Builders of

ASBESTOS CEMENT MACHINERY

Our experienced engineers and machinists offer the industry entire machines built to deliver maximum production.

Your Inquiries Are Invited

1-51 Paterson Avenue E. Rutherford, N. J.

J-M NOW GEARED TO MASS PRODUCE TEFLON PRODUCTS

Johns-Manville has completed the installation of a battery of ultra-modern automatic machines of various types especially designed to mass produce a variety of Teflon products.

Manned by experienced machine operators and skilled technicians, this equipment will be used to supply critical industry needs. The J-M Chemac line of products will include moulded and machined parts, Chempac Tape, Sheet, Sheet and Cut Gaskets, extruded rods and tubes and moulded rods and tubes made of Teflon, as well as Asbestos-Teflon packings and gaskets.

To convert Teflon from its original powdered state into finished products while retaining all of its excellent chemical and electrical properties requires a high degree of skill and experience. Thus, the ability to fabricate Teflon, in quantity, marks a forward stride in supplying the process, mechanical, electronic and electrical industries with improved products on accelerated delivery schedules.

EDWIN S. CROSBY PASSES AWAY

Edwin S. Crosby, retired president of the Johns-Manville International Corp., New York City, died on May 8th at his home.

After service as a Captain in the Army during World War I, Mr. Crosby was vice president in charge of sales a director of the Celite Co. of Los Angeles, Calif. When this firm was acquired by Johns-Manville in 1928, he was named president and director of the Johns-Manville International Corp., and held this position until his retirement in 1951.

Since his retirement Mr. Crosby served as business consultant to Fademac, S.A., of Schoonarde, Belgium.

HONORARY DEGREE FOR DR. RASSWEILER

Dr. Clifford J. Rassweiler received an honorary doctor of science degree from the Polytechnic Institute of Polytechnic Institute of Brooklyn on June 11th. Dr. Rassweiler is vice president for research of the Johns-Manville Corporation.

PHILLIPS ASBESTOS MINES

Producers of

CRUDES

and

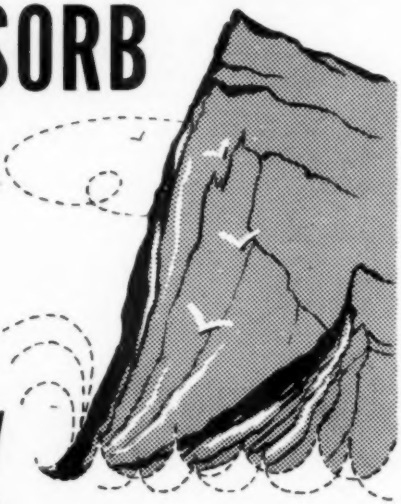
FIBERIZED ASBESTOS

The World's Finest Fibres

DRAWER 71 GLOBE, ARIZONA

Mines and Mills in Gila Co., Arizona

DURASORB FELTS give better stability because . . .



Albany's new method of needled construction provides an extremely stable felt which will not alter size or wander on the machine. This factor, together with excellent uniformity, gives you a new advantage in felts for asbestos-cement shingles, siding and sheets. In addition, DURASORB felts are meeting demands for finish, drainage and long life.

Ask your Albany Felt Sales Engineer for full details and case histories on this outstanding performer.

ALBANY FELT COMPANY

Main Office & Plant, Albany, N. Y.
Other plants: Hoosick Falls, N. Y., N. Monmouth, Me.
St. Stephens, S. C., Cowansville, P.Q.

FIBREBOARD PAPER PRODUCTS

Appointment of *D. J. Moran* as Manager, Sales Service for the "Pabco" Building Materials Division of Fibreboard Paper Products Corporation, has been announced.

Mr. Moran's previous experience includes sales administration in the Southern and Southwest sales Districts for the Fibreboard Building Materials Division, one of the leading Western manufacturers of gypsum wallboard and lath, asphalt roofing, and asbestos cement products.

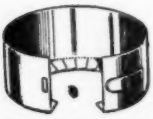
MATTHEW J. FITZGERALD CITED BY DePAUL UNIVERSITY

On June 3rd, DePaul University conferred upon *Matthew J. Fitzgerald* the degree doctor of laws, honoris causa.

In 1917, Mr. Fitzgerald joined the Standard Asbestos Manufacturing Company as a stenographer. Only five years later he was elected secretary-treasurer as well as a director of the company.

Mr. Fitzgerald has been president of the company since 1939. He is also a director of the Insulation Contractors Association of Chicago; he is a vice president and director of the Standard Asbestos Manufacturing Company of Cleveland.

He holds the distinction of having been made a Knight of St. Gregory by Pope Pius XII.



PIPE COVERING PROTECTORS

The "Royal" All Aluminum Adjustable and Permanent Protector for Pipe Covering-ends. Easy to Apply . . . Prompt Shipment.

THE PROTECTOR CO. • **GRANT WILSON, INC.**
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aC

International Asbestos Cement Review
An architectural quarterly devoted to the promotion of asbestos-cement, published in English, French and German editions
Circulation exceeding 44000
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View of Boss Mines, Mashaba

ASBESTOS FIBRES

Chrysotiles, Blues, Amosites

Agent in the United States for

S. A. ASBESTOS TRADING (PTY.) LTD.

MSAULI ASBESTOS MINING & EXPLORATION CO. LIMITED (DIRECTOR'S REPORT)

The following are the results of the Subsidiary African Chrysotile Asbestos Limited, for the Quarter ended December 31, 1957, with the previous quarter's figures given in brackets:

Fibre Produced	2,626 short tons	(2,627)
Sales of Fibre	£143,980	(£152,566)
Working Costs	£ 51,774	(52,585)
Tribute	36,943	(39,574)
Profit (estimated)	52,263	(57,407)
Capital Expenditure	7,253	(9,480)

The new Hydro Electric Plant on the Komati River, which came into operation during December 1957, is working satisfactorily and supplying all power required for the Mine.

K & M NAMES ASSISTANT DEVELOPMENT MANAGER

Frederick E. Hawkins has been named assistant development manager by Keasbey & Mattison Company, Ambler, Pa.

He holds degrees in Chemical Engineering from Cornell University and is a member of the American Institute of Chemists.

Prior to joining the research staff of Keasbey & Mattison, he was associated with the National Dairy Products Corp. in its Research & Development Division.

FLINTKOTE OPENS NEW MID-WEST PRODUCING PLANT

The Flintkote Company, on May 15th, opened a new multi-million dollar Insulrock producing plant at North Judson, Ind. to serve Chicago and Mid-Western area and to meet the steadily increasing demand for the building slab product.

The new plant, located only 80 miles southeast of Chicago and 65 miles southeast of Flintkote's big Chicago Heights plant, will have an annual capacity of 60,000 tons of Insulrock when it swings into full production. It is the third Insulrock plant: other plants are located in Linden, N. J. and Richmond, Va.

ACE ASBESTOS MANUFACTURING CO.

Importers, Exporters, Processors of All Varieties of

RAW ASBESTOS

for Every Use

451 COMMUNIPAW AVE. JERSEY CITY, N. J.

Coming in Mid-1958:

New Source of Quality Chrysotile

ASBESTOS

ASARCO and Lake Asbestos of Quebec, Ltd., are dredging and draining a 500-acre lake to convert it into one of the richest sources of high quality, longer fibre chrysotile asbestos in the world today.

This year ASARCO's new major open-pit asbestos mine and newly constructed, modern mill will begin to produce 100,000 tons of asbestos annually. ASARCO has no plans for fabricating asbestos products, so this entire supply will be at your disposal.

If you manufacture or use any of the hundreds of products containing asbestos, you'll want to get acquainted with this dependable new source of supply soon.

ASARCO **Lake Asbestos of Quebec, Ltd.**

A Subsidiary of

AMERICAN SMELTING AND REFINING COMPANY

120 Broadway • New York 5, N. Y.

GARLOCK PACKING COMPANY
New Appointment

The appointment of *Thomas L. Denney* to the position of General Sales Manager of The Garlock Packing Company of Palmyra, N. Y., has recently been announced.

Mr. Denney, who assumed his new duties on May 1, moved from the position of Special Assistant to the Vice President-Marketing. He joined Garlock as a sales representative assigned to the Pittsburgh, Pennsylvania sales branch. Prior to joining Garlock, he was associated with the Scott Paper Company and the Joseph Horne Company.

CURRENT RANGE OF PRICE

As of June 10, 1958

ARIZONA—	Per Ton of 2,000 lbs., f.o.b Globe, Arizona		
No. 1 Crude (soft)	$1,500.00	to	$2,000.00
No. 2 Crude (soft)	1,000.00	to	1,350.00
No. 3 Crude (soft)	400.00	to	675.00
Filter Fibre (soft)	250.00	to	475.00
No. 1 Crude (semi-soft)	1,200.00	to	1,500.00
No. 2 Crude (semi-soft)	900.00		
No. 3 Crude (semi-soft)	400.00		

CANADA—	Per Ton 2,000 lbs. f.o.b. Mine Canadian Currency		
Group No. 1 (Crude No. 1)	$1,475.00	to	$1,850.00
Group No. 2 (Crude No. 2); Crude Run-of-Mine and Sundry	790.00	to	1,200.00
Group No. 3 (Spinning Fibre)	370.00	to	650.00
Group No. 4 (Shingle Fibre)	180.00	to	245.00
Group No. 5 (Paper)	120.00	to	150.00
Group No. 6 (Waste, Stucco or Plaster)	.....		86.00
Group No. 7 (Refuse or Shorts)	40.00	to	80.00

VERMONT—Per ton of 2000 lbs. f.o.b. Hyde Park or Morrisville. Vt.

Group No. 3 (Spinning & Filtering)	$ 381.00	to	$ 440.00
Group No. 4 (Shingle Fibre)	185.00	to	205.00
Group No. 5 (Paper Fibre)	123.00	to	155.00
Group No. 6 (Waste, Stucco or Plaster)			88.00
Group No. 7 (Refuse or Shorts)	42.00	to	77.00

MOUNTBRIDGE EXPORTERS

(Pty) Ltd.

Chrysotiles

Crocidolites

Amosite

STOLTZBURG MINE

BARBERTON MINE

Transreef House—66 Marshall Street
P. O. Box 4421
Johannesburg — Union of South Africa

PARS MANUFACTURING COMPANY
Appoints Sales Manager

In assuming the ownership of the PARS MANUFACTURING COMPANY, Ambler, Pa., Lloyd O. Lohmeyer, Jr., has announced the appointment of *A. J. Ocinski* as Sales Manager. Previously Mr. Ocinski has been a distributors' and manufacturers' representative in hardware, and until his recent appointment served as a staff assistant in the Promotions Department of the Chamber of Commerce of Greater Philadelphia.

ASBESTOS STOCK QUOTATIONS

(These figures are compiled from the Commercial & Financial Chronicle. No guarantee as to their correctness.)

		May 1958		
	Par	Low	High	Last
Amer. Br. Shoe (Com)	np	34⅛	34⅞	34⅞
Amer. Br. Shoe (Pfd)	100	90	90	90
Armst. Ck. (Com)	1	25⅝	27⅜	26¾
Armst. Ck. (Pfd)	np	88	90	88¼
Asbestos Corp. (Com)	np	27¾	30¼	30¼
Carey (Com)	10	26	27⅞	27
Cassiar Asb. Corp.	np	$7.55	$8.25	$8.00
Celotex (Com)	1	28⅞	29⅞	29⅛
Celotex (Pfd)	20	18⅜	19¼	19
Certainteed (Com)	1	9	10¼	9⅞
Fibreboard Paper Prod. (Com)	np	25⅛	27½	27⅛
Fibreboard Paper Prod. (Pfd)	100	92½	96	94½
Flintkote (Com)	5	41⅝	43⅞	42¾
Flintkote (Pfd)	np	91	92	92
Johns-Manville (Com)	5	36⅞	38⅜	38⅜
Natl. Gypsum (Com)	1	46¾	48¾	48
Natl. Gypsum (Pfd)	np	95⅜	100	97½
Ray-Man (Com)	1	47½	50¼	47½
Ruberoid (Com)	1	32½	35½	34⅞
Thermoid (Com)	1	10¾	11¼	10⅞
Thermoid (Pfd)	50	45⅜	46	46
Union Asb. & Rub. (Com)	5	7	7¾	7¾
United Asb. (Com)	1	$6.30	$6.85	$6.75
U.S. Gypsum (Com)	4	72¾	79	75⅜
U.S. Gypsum (Pfd)	100	164	171½	171½
U.S. Rubber (Com)	5	31⅝	33¼	32¾
U.S. Rubber (Pfd)	100	143⅛	145½	144½

RAW ASBESTOS DISTRIBUTORS

LIMITED

FOR CANADIAN, RHODESIAN
AND SOUTH AFRICAN ASBESTOS

ASBESTOS HOUSE • 77-79 FOUNTAIN ST. • MANCHESTER 2
ENGLAND

FLINTKOTE COMPANY

First Quarter Report

The Flintkote Company and subsidiaries sustained a net loss of $141,435 in the first quarter this year compared with a net income of $973,104 in the corresponding period last year but operations have been on a profitable basis "since February" and the company "continues to be optimistic for favorable results for the year 1958".

Net sales for the first quarter of 1958 were reported at $22,506,159, a decline of 11.3 per cent from the $25,365,383-volume for the first three months of 1957.

CAREY THREE MONTHS' REPORT

Report for the three months ended March 31, 1958 was issued recently by The Philip Carey Mfg. Company, and gives the following figures:

Sales 1958	$13,156,192
Compared with same period in 1957	14,034,395
Net earnings after income taxes	26,481
Compared with same period in 1957	305,803
Earnings per common share	.03
Compared with same period in 1957	.36

MUNDET CORK CORPORATION

Administrative Changes

In a move to streamline organization responsibilities, E. H. Luchs, vice president in charge of the Insulation Division, Mundet Cork Corporation, announces the following administrative changes: *Leon T. Choate* has taken over the direction of both FOB and contract sales of Mundet industrial insulations. *Robert C. Bressan* has been appointed to serve as Mr. Choate's assistant in these capacities.

TEST

. . . the added sales volume awaiting you among the nation's roofing and siding contractors. Write to . . .

AMERICAN ROOFER and SIDING CONTRACTOR

425 Fourth Avenue, New York City

Drastic reduction of heat loss with

PABCO PRECISION-MOLDED CALTEMP

a Calcium Silicate Insulation

When vapors or liquids are conveyed or held at temperatures up to 1900° F.—when equipment is operated to high heat levels—Pabco insulations cut heat losses to absolute minimums. "Precision-Molded" by a patented process, Pabco's Caltemp and 85% Magnesia pipe and block insulations control temperatures within close tolerances. For data on technical advantages, case histories, or engineering consultation, write . . . or call a Pabco insulation engineer.

INSULATION GUIDE

Temperature	Recommended Pabco Insulation
to 550° F.	85% Magnesia pipe covering • block • cement
to 1200° F.	Caltemp pipe covering • block • cement
to 1500° F.	Prasco 15 C pipe covering • block • cement
to 1900° F.	Prasco 19 C block

PABCO

INDUSTRIAL INSULATIONS DIVISION

Fibreboard Paper Products Corporation
San Francisco 19 • Chicago 54
Houston 4 • New York 16 • Los Angeles

UNION ASBESTOS & RUBBER COMPANY
First Quarter Report

The Union Asbestos & Rubber Company reported a net loss of $40,716 for the first quarter of 1958, compared with a net profit of $160,436 for the same period last year.

The loss was directly traceable to the depressed economic condition of the nation's railroad industry.

UNARCO sales for the first three months of this year were $2,071, 530 as against $3,350,525 for the same period in 1957.

UNIVERSAL ASBESTOS MFG. CO. LTD.
Annual Report

The Annual report of the Universal Asbestos Mfg. Company, Ltd., covering the period of October 1, 1956 to September 29, 1957 has recently been received.

The Trading Profit of the Group, after making provision for depreciation and all other trading expenses, amounts of £201,358 compared with £340,135 for the previous year, and the Group Net Profit, after making full provision for taxation, is £84,309.

ASBESTOS VEIN FOUND IN COUNTY CORK

An official of the Emerald Isle Mining Company at Allihies, County Cork, confirmed that an asbestos vein had been found in the Allihies District.

He was unable to comment on the richness of the deposit pending a more detailed examination.

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SIDING and
INSULATION

Reaching and selling the nation's top aggressive contractors each month

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BPA audited circulation of 11,500 representing the highest buying power in the trade.

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We take raw asbestos and fashion it to the needs of a thousand and one different consumers. Closely controlled through all stages of manufacture, asbestos is converted into Fibre, Yarns, Tapes, Cloths, Rovings, Tubing and Webbing widely used for heat and electrical insulation. It is also fabricated into many different kinds of friction materials, including the world-famous Mintex brake and clutch linings.

BRITISH BELTING & ASBESTOS LTD.

Cleckheaton, Yorkshire, England

PATENTS

Abstracts of U. S. Patents on Asbestos and Asbestos Products by Oliver S. North.

Copies of patents can be obtained by sending 25 cents (in coin) to the Commissioner of Patents, Washington 25, D. C., giving the patent number, date it was issued, name of patentee and name of invention.

Production of Monchromatic and Multi-Colored Pictures, No. 2,831,765. Granted on April 22, 1958 to P. Kleinschmidt (assignor to Variofix (Pty) Ltd., Johannesburg, Transvaal, Union of South Africa. Method of producing relief pictures on a non-porous base consisting of white portland cement and asbestos fibre.

Water-Repellent Asbestos-Cement Structural Articles and Method of Making, No. 2,833,673. Granted on May 6, 1958 to T. F. Hart and R. S. Wishart, Jr. (assignor to Union Carbide Corp., a corporation of N. Y.). Shingles made of asbestos and portland cement are rendered water-repellent and bloom-resistant by coating them with a silicone composition. Treatment eliminates blooming during both manufacture and storage, as well as in use, and does not add appreciably to manufacturing costs.

TOP SALES RESULTS

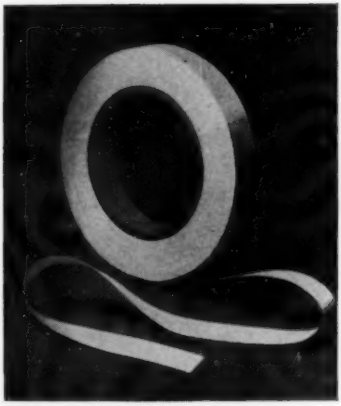
Go
Hand in Hand
with

the LARGEST

BPA Audited CIRCULATION

in the Roofing, Siding & Insulation Industry
PROVED RESPONSE — 20,000 Reprint Orders
ADVERTISERS' REACTION — 140% Increase
In Ad Volume '57 v '55
NATIONAL ROOFER, 315 W. Madison St., Chi., 6

NEW R/M SILICONE RUBBER NOVABESTOS® TAPES withstand shock, vibration, heat oil and moisture—yet cost less



You will get better insulation at a lower cost, using the new silicone rubber coated Novabestos sheets and tapes just announced by R/M.

These new products resist severe flame exposure, dry baking and abuse—at a unit area cost from 15 to 30% lower than for ordinary materials.

Write today for complete test reports and details

RAYBESTOS-MANHATTAN, INC.

ASBESTOS TEXTILE DIVISION, Manheim, Pa.

R M

FACTORIES: Manheim, Pa.; Bridgeport, Conn.; Paramount, Calif.; No. Charleston, S.C.; Passaic, N.J.; Neenah, Wis.; Crawfordsville, Ind.; Peterborough, Ontario, Canada.

RAYBESTOS-MANHATTAN, INC., Asbestos Textiles • Laundry Pads and Covers • Engineered Plastics • Mechanical Packings • Abrasive and Diamond Wheels • Brake Linings • Brake Blocks • Clutch Facings • Industrial Rubber • Rubber Covered Equipment • Sintered Metal Products • Industrial Adhesives • Bowling Balls

SOUTHERN ASBESTOS — TEXTILES

SOUTHERN ASBESTOS COMPANY, CHARLOTTE 1, N. C.

S